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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,938	04/28/2005	Xiangsheng Meng	CGL02/0267US01	3113

38550 7590 03/10/2006

CARGILL, INCORPORATED
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WAYZATA, MN 55391

EXAMINER

PRICE, ELVIS O

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/532,938

Applicant(s)

MENG ET AL.

Examiner

Elvis O. Price

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12-17,19-21 and 24 is/are rejected.
- 7) ☒ Claim(s) 2,11,18,22 and 23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/28/05</u> . | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Claims 1-24 are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3-10, 12-17, 19-21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al. {US PG Pub. 2002/0087036 A1}.

Applicants claim, inter alia, a process for preparing 1,3-propanediol comprising, hydrogenating a compound selected from the group consisting of 3-hydroxypropionic acid, a C1-C20 alkyl or a C1-C20 aryl ester of 3-hydroxypropionic acid and a mixture of the acid and the ester, in a liquid phase, in the presence of a catalyst comprising ruthenium.

Haas et al. teach a process for the catalytic hydrogenation of certain hydrogenatable organic compounds using a supported catalyst comprising ruthenium

(see Examples). Haas et al. teach a number of organic compounds, including alpha-, beta-, or gamma-hydroxycarbonyl compounds, which can be hydrogenated to the corresponding hydrogenated product by performing the said catalytic hydrogenation using the catalyst comprising ruthenium (see paragraph [0018]). Haas et al. teach that carbonyl functional groups that can be hydrogenated are, inter alia, aldehydes, ketones, esters, etc. (paragraph [0016]). The difference between what is presently claimed and what is taught by Haas et al., is that Haas et al. do not exemplify the hydrogenation of a 3-hydroxypropionic acid ester (only a 3-hydroxy aldehyde (i.e., 3-hydroxypropanal)).

However, such a difference would have been obvious to one having ordinary skill in the art because Haas et al. expressly teach that hydroxycarbonyl compounds (such as hydroxy aldehydes, hydroxy ketones, hydroxy ester, etc.) can be hydrogenated to the corresponding hydrogenatable product using a supported ruthenium catalyst.

One having ordinary skill in the art would have been motivated, in view of the Haas et al. teachings, to use a 3-hydroxypropionic acid ester in place of the 3-hydroxypropanal so as to arrive at another alternative method for preparing 1,3-propanediol, depending on cost, availability, and convenience of use of a 3-hydroxypropionic acid ester. Therefore the presently claimed invention would have been obvious to one having ordinary skill in the art.

Allowable Subject Matter

Claims 2, 11, 18, 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does

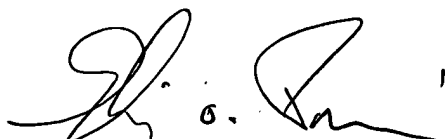
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not teach or suggest preparing 1,3-propanediol by hydrogenating 3-hydroxypropionoic acid using a catalyst comprising ruthenium and/or preparing 1,3-propandiol by hydrogenating 3-hydroxypropionoic acid esters using a catalyst comprising ruthenium and molybdenum.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvis O. Price whose telephone number is 571 272-0644. The examiner can normally be reached on 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 571 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Elvis O. Price', with a stylized flourish at the end.

Elvis O. Price